

Nebraska Transit and Rail Advisory Council

Nebraska Transit Options Feasibility Study

Project Status Report

September 9, 2003



Agenda

- Introduction of N-TRAC Team
- Purpose of Study
- Operating plans
 - Three operating scenarios
- Environmental Evaluation
- Financial and Economic Evaluation
- Next steps

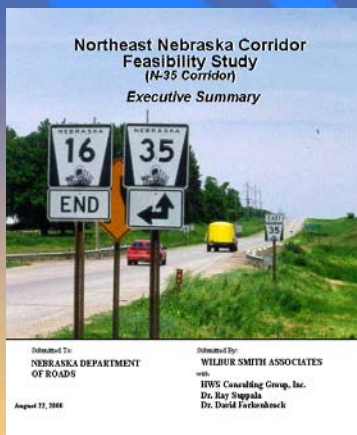


Wilbur Smith Associates

- Anchorage Commuter Rail
- Euclid Corridor BRT
- Caltrans/Amtrak Intercity Rail
- ConnDOT commuter rail
- New Britain - Hartford BRT
- Caltrain Strategic Plan
- Marin Express Bus
- GRTA Express Bus Plan



HWS Consulting



- Northeast Nebraska Corridor Study
- DM&E route design
- Corridor studies for South and East Beltways in Lincoln
- Hastings Rail Relocation



Purpose of Study

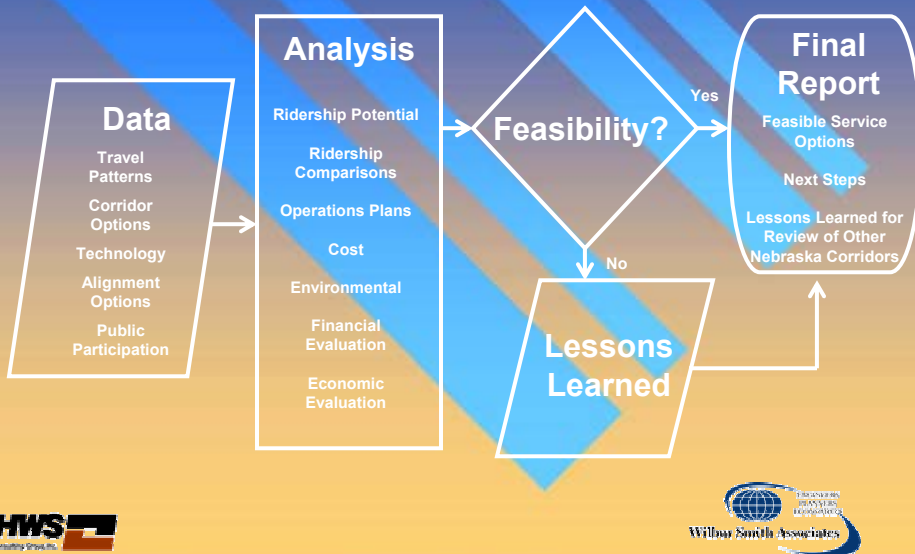
- Determine feasibility of public transit options
 - Where are people traveling?
 - Do corridors fit the travel patterns?
 - What modes can handle the demand?
 - What are the next steps?

Alternatives to Widening Roads

- Putting priority on people...
- Giving people more choices!



Approach: Project Flow Chart



Demand for Transit

- Residential population density
- Employment density in CBD

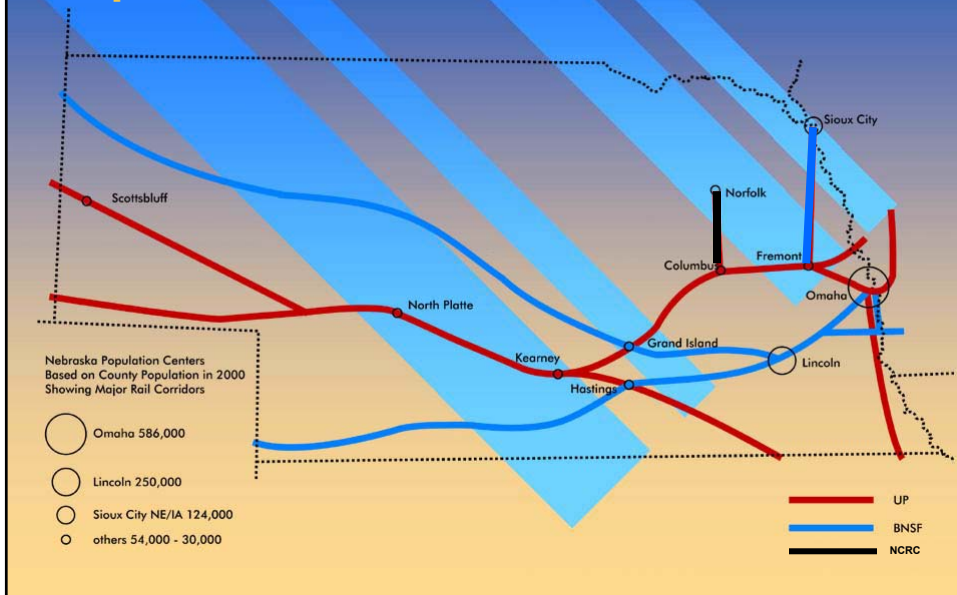
Residential Choices



Employment Choices



Population Centers and Rail Corridors



Travel Volumes by City Pair

	Omaha	Lincoln	Sioux City	Grand Island	Kearney	Norfolk	Fremont	North Platte	Columbus	Hastings	Lexington	Beatrice	Wahoo	Blair	Seward	Nebraska City	Totals
Lincoln	29955																29955
Sioux City	4725	732															5457
Grand Island	818	617	64														1498
Kearney	395	225	34	502													1156
Norfolk	1597	315	98	67	28												2106
Fremont	11262	1468	288	52	22	147											13238
North Platte	135	68	13	32	50	8	6										313
Columbus	1661	314	93	133	40	293	186	9									2727
Hastings	476	309	40	1517	128	28	22	14	45								2578
Lexington	153	74	14	71	229	10	8	82	12	26							679
Beatrice	881	1277	37	26	12	15	38	4	14	14	19						2339
Wahoo	6176	2514	97	28	12	45	652	3	49	15	4	36					9631
Blair	16540	369	182	19	9	42	618	3	47	7	3	13	83				17934
Seward	1033	3755	35	69	21	15	47	4	14	33	6	37	53	14			5137
Nebraska City	3309	153	40	9	4	12	36	2	12	5	2	7	20	28	7		3644
York	486	593	22	173	33	10	21	5	14	74	8	15	19	7	122	4	1607
Totals	79603	12781	1058	2699	589	624	1633	127	207	173	44	108	174	50	129	4	100000

Corridor Possibilities



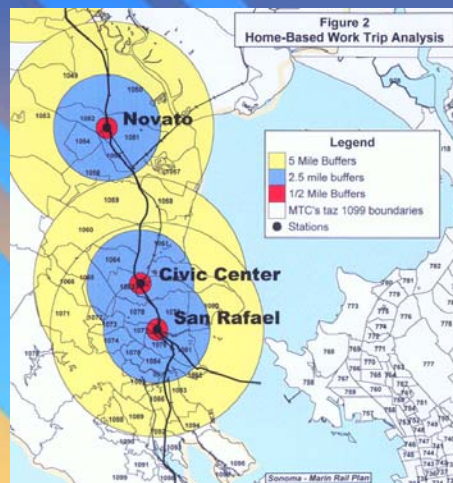
Three Corridors

- Lincoln - Omaha
- Fremont – Omaha
- Blair - Omaha

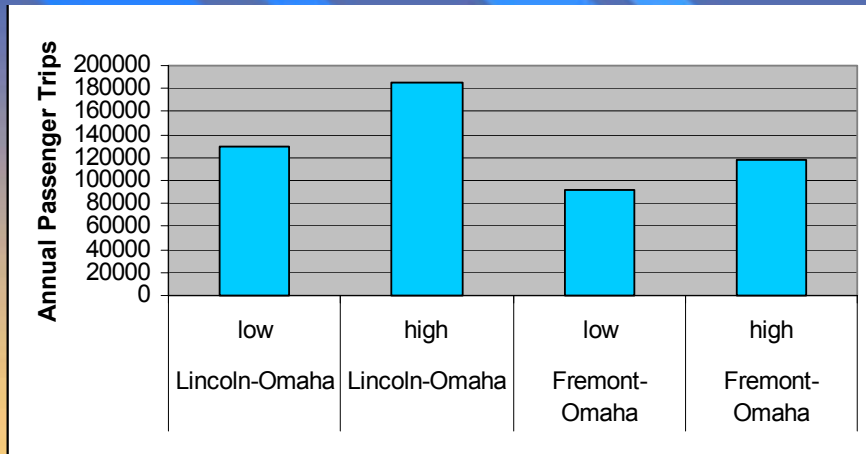


Preliminary Opinion of Ridership Potential

- Sketch planning ridership estimates
- Estimates based on shares of total O-D movements
- Capture rates (mode splits) used data from similar systems



Commuter Rail Ridership in 2010



Express Bus Trips in 2010

	Low	High
Lincoln-Omaha	56,000	81,000
Fremont-Omaha	24,000	29,000
Blair-Omaha	28,000	32,000

...And Special Events Traffic



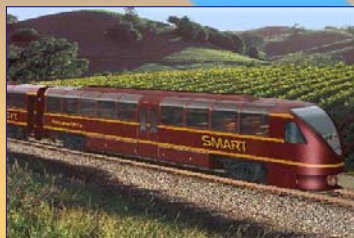
Special Events Ridership

- UN sporting events, primarily football
- Could easily fill 3 DMUs
- Could add more than 9,000 trips to annual commuter rail ridership
- Could easily fill several buses

Ridership Summary

- Commuter rail
 - Lincoln to Omaha has potential
- Express / commuter bus
 - Several commute corridors have potential
- Insufficient demand for new intercity rail
- Existing intercity bus services serve the corridor well now
- Special events potential exists

Inventory of Technology Options



Commuter Rail

- A rail passenger service operated on the tracks of the general railroad system connecting distant suburbs with a central city characterized by peak hour service.



Express (Commuter) Bus



Estimated Rail Cost



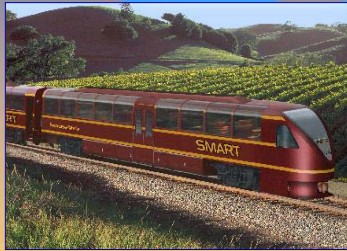
Low Cost Option

- \$79.3 million
- 4 DMU train sets
- Improvements to the BNSF track
- Maintenance facility
- 5 stations



Operations Plan

- Commuter Rail
- Express Bus



Operating Scenarios

- Scenario A
 - Commuter rail Lincoln to Omaha
 - Express bus Fremont to Omaha
 - Express bus Blair to Omaha
- Scenario B
 - Express bus all three corridors
- Scenario C
 - Express bus only Lincoln to Omaha

Commuter Rail Operating Plan

- 45-minute frequencies during the peak commute periods
- Intermediate stations
 - Giles Road in southwestern Omaha
 - Gretna
 - 48th Street in Lincoln
- Use of BNSF tracks
- Three trainsets plus one spare

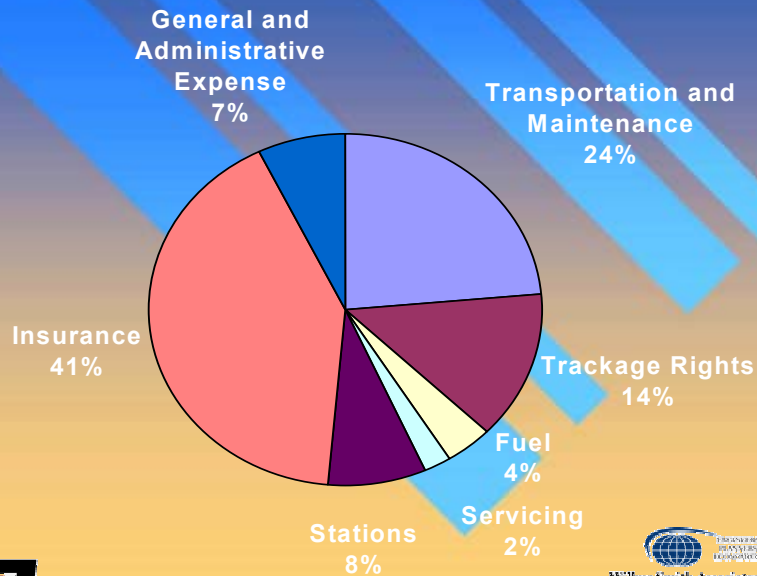


Rail Operating Schedule

Eastbound (Read Down)					Westbound (Read Up)			
#1	#3	#5	#7	Location	#2	#4	#6	#8
6:00a	6:45a	5:00p	5:45p	Lincoln	7:35a	8:20	6:35p	7:20p
7:05a	7:50a	6:05p	6:50p	Omaha	6:30a	7:15a	5:30p	6:15p



Operating Costs



Operating Fare Recovery Ratio

Service	Ridership Forecast	Fare Box Recovery	Operating Cost per Train Mile	Revenue per Train Mile	Subsidy per Train Mile
Lincoln-Omaha	Low	16%	\$40.30	\$6.38	\$33.91
	High	22%	40.30	9.00	31.30

Rolling Stock

- 4-sets of DMU 3-car consists
 - \$6.8 million per train set



Other Issues

- Operating agreements with BNSF
 - Access and operating agreements
- Institutional structure
 - Regional or state agency sponsorship
- Transit service integration
 - Coordination with StarTran and MAT



Express (Commuter) Bus Plan



Express Bus Plan

- 30-minute peak period frequency
- Guaranteed ride home option
- Minimal park-and-ride facilities
- Suburban commuter bus equipment
- Contract operations

Comparative Summary of Express Bus Scenarios

Elements	Scenario A – Commuter Rail/Express Bus (Bus Component Only)	Scenario B – Express Bus in All Corridors	Scenario C – Express Bus Lincoln-Omaha
Annual O&M Costs	\$210,000	\$649,000	\$439,000
Capital Costs	\$1.58 million	\$2.2 million	\$728,000
Rolling Stock	\$2.7 million	\$4.95 million	\$2.25 million
Annual Ridership	52,000 to 61,000	108,000 to 141,000	56,000 to 81,000
Annual Revenue	\$120,000 to \$141,000	\$290,000 to \$383,000	\$168,000 to \$241,000



Operating Subsidies and Fare Box Recovery in 2010

Service	Revenue	O&M Cost	Subsidy Requirement	Fare Box Recovery
Scenario A	\$120,000 to \$141,000	\$210,000	\$70,000 to \$91,000	57%-67%
Scenario B	\$288,000 to \$381,000	\$649,000	\$268,000 to \$361,000	44%-59%
Scenario C	\$168,000 to \$241,000	\$439,000	\$198,000 to \$270,000	38%-55%



Other Issues

- **Institutional structure**
 - Regional or state agency sponsorship
- **Transit integration**
 - Agreements with MAT and StarTran



Task 10: Environmental and Social Implications

- **Environmental matrix shows:**
 - Land use compatibility
 - Recreational impacts
 - Transportation and circulation impacts
 - Noise impacts
 - Biological impacts
 - Environmental justice issues
- **Some possible impacts may be beneficial**
 - e.g. enhanced mobility for disadvantaged communities



Environmental and Social Impact Matrix

	Omaha-Lincoln		Omaha-Fremont		Omaha-Blair	
	Rail	Bus	Rail	Bus	Rail	Bus
Land Use	Possible	Not Expected	na	Possible	na	Possible
Recreation	Possible	Possible	na	Possible	na	Possible
Noise and Vibration	Possible	Possible	na	Possible	na	Possible
Biological	Possible	Not Expected	na	Possible	na	Possible
Stream / Drainage	Possible	Not Expected	na	Possible	na	Possible
Transportation	Possible	Possible	na	Possible	na	Possible
Cultural	Possible	Not Expected	na	Possible	na	Possible
Environmental Justice	Possible	Possible	na	Possible	na	Possible
Air Quality	Not Expected	Not Expected	na	Not Expected	na	Not Expected
Environmental Risk Sites	Possible	Not Expected	na	Possible	na	Possible
Economic and Social Impacts	Possible	Possible	na	Possible	na	Possible

Task 11: Financial Evaluation

- Financial performance improves over time
 - Scenario A goes from 18% to 24% in 20 years
 - Scenarios B and C approach covering operating costs in 2030
- Funding sources could include federal, state and local sources, depending on the scenario
- Bus options have attractive costs per new rider for federal funding sources

Cost Effectiveness Index (Cost Per New Rider)

Measures	Alternatives				
	No Build	Rail Only	Scenario A	Scenario B	Scenario C
Annual New Riders (midpoint)	0	169,634	225,974	124,790	68,450
Total Capital Costs (000's)	0	79,266,101	83,516,101	7,250,000	2,978,000
Annualized Capital Costs	0	10,261,164	1,0726,914	807,750	342,468
Annualized O&M Costs	0	4,958,424	5,168,754	649,050	438,720
Total Annualized Costs (000's)	0	15,219,588	15,895,668	1,456,800	781,188
Cost per New Rider (US\$)	N/a	89.72	70.34	11.67	11.41



Task 12: Economic Evaluation

- Accident cost savings (direct)
 - Accidents avoided
- Traveler cost savings (direct)
 - Ticket versus vehicle operating costs
- Congestion cost savings (indirect)
 - Value of travel time savings for all highway users



Economic Savings in 2010

- **Scenario A: \$1.3 million**
 - Top savings: accidents
- **Scenario B: \$0.9 million**
 - Top savings: traveler cost
- **Scenario C: \$0.7 million**
 - Top savings: traveler cost
- **Rail only: \$1.0 million**
 - Top savings: accidents



Task 13: Next Steps for N-TRAC

- **Evaluate the scenarios in terms of:**
 - Ease of implementation
 - Ridership potential
 - Financial performance
 - Funding eligibility
 - Benefit versus cost



Next Steps (Cont.)

- Identify next steps for implementation
 - Refined operating plan
 - Funding and financing
 - Prelim. Engineering / Environ. Analysis
 - Institutional structure
 - Hiring an operator
 - Cut the ribbon in 2010!



THANK YOU

Questions and Answers

